The Patent Office
Concept House
Cardiff Road
Newport
South Wales
NP10 8QQ

CERTIFIED COPY OF
PRIORITY DOCUMENT

I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

I also certify that the application is now proceeding in the name as identified herein.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

In accordance with the rules, the words "public limited company" may be replaced by p.l.c., plc, P.L.C. or PLC.

Re-registration under the Companies Act does not constitute a new legal entity but merely subjects the company to certain additional company law rules.

Signed

Dated 23 March 2004

GB0115852.6

By virtue of a direction given under Section 30 of the Patents Act 1977, the application is proceeding in the name of:-

GENTECH INVESTMENT GROUP AG
Incorporated in Switzerland
Baarerstrasse 112, Treuhand-und Revisiongesellschaft Zug
6302 Zug
Switzerland

ADP No. 08361271001

Patents Form 1/77
Patents Act 1977
(Rule 16)

The Patent Office

Request for grant of a patent

The Patent Office
Cardiff Road
Newport
South Wales NP10 8QQ

1. Your reference
1854502/SPW

2. Patent Application Number **0115852.6** 28 JUN 2001

3. Full name, address and postcode of the or of each applicant *(underline all surnames)*

Sensopad Technologies Limited
Harston Mill
Harston
Cambridgeshire
CB2 5GG

8157471001

Patents ADP number *(if known)*

If the applicant is a corporate body, give the country/state of its incorporation — Country: **ENGLAND** State:

4. Title of the invention

MONITORING SYSTEM

5. Name of agent — **Beresford & Co**

"Address for Service" in the United Kingdom to which all correspondence should be sent

2/5 Warwick Court
High Holborn
London WC1R 5DH

Patents ADP number

1826001

6. Priority details

Country	Priority application number	Date of filing

Patents Form 1/77

7. If this application is divided or otherwise derived from an earlier UK application give details

Number of earlier application | Date of filing

8. Is a statement of inventorship and or right to grant of a patent required in support of this request?

YES

9. Enter the number of sheets for any of the following items you are filing with this form.

Continuation sheets of this form

Description TWO

Claim(s)

Abstract

Drawing(s)

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent *(Patents form 7/77)* ONE PLUS ONE COPY

Request for preliminary examination and search *(Patents Form 9/77)*

Request for Substantive Examination *(Patents Form 10/77)*

Any other documents *(please specify)*

11. I/We request the grant of a patent on the basis of this application

Signature Beresford & Co Date 28 June 2001

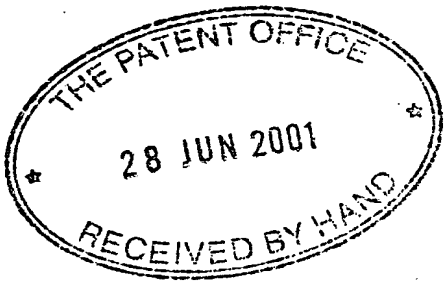
BERESFORD & Co

12. Name and daytime telephone number of person to contact in the United Kingdom WILLIAMSON; SIMEON PAUL

Tel: 020 7831 2290

Patents Form 7/77
Patents Act 1977
(Rule 15)

The Patent Office



Statement of inventorship and of right to grant of a patent

The Patent Office
Cardiff Road
Newport
South Wales NP10 8QQ

28 JUN 2001

1. Your reference
1854502/SPW

2. Patent Application Number
accompanying application reference 1854502/SPW **0115852.6**

3. Full name of the or each applicant

Sensopad Technologies Limited

4. Title of the invention

MONITORING SYSTEM

5. State how the applicant(s) derived the right from the inventor(s) to be granted a patent

BY VIRTUE OF EMPLOYMENT.

6. How many, if any additional Patents Forms 7/77 are attached to this form?

NONE

7. I/We believe that the person(s) named over the page (and on any extra copies of this form) is/are the inventor(s) of the invention which the above patent application relates to.

Signature Beresford & Co
BERESFORD & Co

Date 28 June 2001

8. Name and daytime telephone number of person to contact in the United Kingdom

SIMEON PAUL WILLIAMSON

Tel: 020 7831 2290

Patents Form 7/77

HOWARD; Mark Anthony
SENSOPAD TECHNOLOGIES LIMITED
HARSTON MILL
HARSTON
CAMBRIDGESHIRE
CB2 5GG

8157497001

Monitoring System

In order to achieve high levels of energy efficiency and wash performance it is necessary for washing machines to use a washing cycle optimised for both the type and amount of clothes placed within the drum. The amount may be determined by weighing the drum with and without clothes.

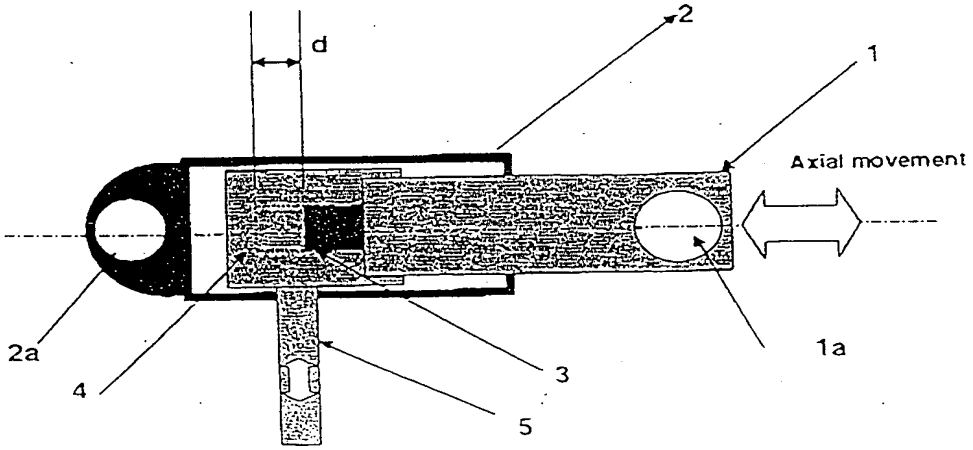
Washing machines are also required to be quiet. Washing machines produce some noise, or disturbing vibrations (e.g. on floorboards), because of the eccentric motion of clothes in the rotating drum. This is particularly prevalent during spin drying when a load of wet clothes may be required to be spun at high speed. This vibrational motion may be electronically sensed and prevented by the machine's control system.

This invention enables a low cost, accurate and effective method of weighing clothes and sensing vibration in a washing machine.

This invention utilises the displacement of the drum relative to it's supports caused by the mass of the load within the drum.

This invention is shown schematically below:

Displacement of the drum causes a proportional displacement of a piston [1] relative to a cylinder [2] in one or more of the washing machine's vibration control and support dampers. Typically each damper is connected between a support frame and the drum using fixings [1a and 2a]. Such dampers may be hydraulically filled. Typically the piston's movement [d] caused by the weight in the drum is only a few millimetres. Hence a highly accurate displacement measuring technique is required. Also, given that the damper is often operating in a vibrating, hot, humid environment for long periods a highly reliable, preferably non-contact, sensing system is required.



Such a technique may be achieved by the use of inductive resonant position sensing. In this technique a 'puck' containing an electrically resonant circuit [3] is attached to either the piston or the cylinder. The electrically resonant circuit contains a capacitor and an inductance. Local to the puck is a set of electrical conductors which act as a set of electro-magnetic transmit and receive coils. These coils may be embodied in the form of 'pad' [4]. The pad contains conductors to transmit alternating electro-magnetic energy towards the puck, so as to energise inductively the circuit's resonance. The pad – or a separate unit - contains receive conductors which receive signals caused by the electrical resonance of the puck. Since the resonance may be detected by the receive conductors, whose position is known, the position of the puck relative to the receive conductors can be calculated. Using this technique axial, radial or both radial and axial movement may be detected.

The energy required to get the puck to resonate may be sent from the host control system's electronics using a simple electrical conductor such as a track on a circuit board. The detected signal may be transmitted to the host control systems electronics using a similar conductor. In order to minimise costs the power and signal lines may be formed in to a single multi-conductor cable or a series of tracks in a circuit board.

In order that small displacements may be measured accurately the 'pad' may use receive circuits which are configured in such a way that a series of sensing tracks are used. The series of tracks are arranged such that the effective wavelength of the tracks gets smaller in the series thus enabling a type of vernier effect in the electronic signal to be achieved. Since the receive conductors are most likely to embodied as printed circuit board tracks then it can be seen by those skilled in the art that highly accurate placement of the tracks is possible and hence highly accurate readings also possible.

In the event that a suitable cylinder and piston assembly is not available on to which the 'puck' and 'pad' may be attached an alternative mechanical arrangement is possible. In such instances one or more pucks may be attached to the rotating drum and the detecting antennae attached to a stationary support member. Both rotational speed and radial displacement may be measured, although radial displacement is of predominant interest in determination of vibrational characteristics.